

Conservation Education and Community Pride as a Tool for Protecting Mamize Nature Reserve, Sichuan Province, China

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Increasingly the major zoos of the developed world seek to evidence their contribution to conservation by involvement in *in situ* projects, through both financial and technical support (Gerritsen 2004; Mohan *et al.* 2004; Sheppard 2002). Technical support can include transferable skills, for example animal husbandry or veterinary procedures, and education. However, it is important to recognize that education must be culturally relevant to be effective (Alasuutari 1996) and cannot be directly 'exported' in the same way. This paper discusses the significance of integrating socio-cultural aspects into conservation education programming.

To contribute to conserving the habitat of the giant panda (*Ailuropoda melanoleuca*) and the biodiversity of the region, the Chengdu Research Base of Giant Panda Breeding has joined forces with other institutions and nature reserves in developing a culturally relevant conservation education programme in one of the 50 giant panda reserves in China, namely Mamize Nature Reserve.

The World Zoo Conservation Strategy urges zoos to embrace the concept of conservation coalitions using the wide range of conservation tools at their disposal (WAZA 2005). The collaborative effort for Mamize is partnered by Chester Zoo (North of England Zoological Society, NEZS) whose mission is 'To be a major force in conserving biodiversity worldwide.' The Chengdu Panda Base, NEZS and Liverpool John Moores University (LJMU) have a long established partnership for wildlife conservation in Sichuan Province.

Mamize was established in 2001 as a county level Nature Reserve and in 2003 as a provincial reserve. It is a 300,000 hectare reserve located on the border

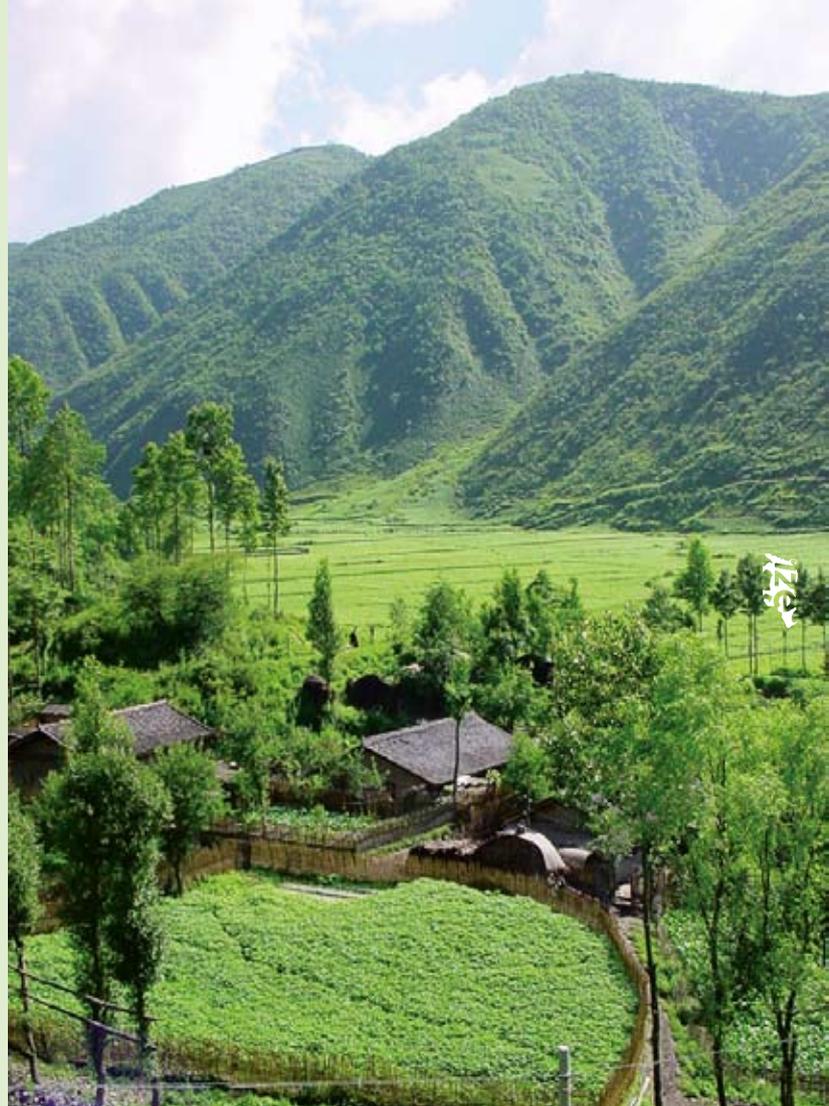
of Sichuan and Yunnan Provinces. There are currently circa 10 giant pandas in Mamize according to a 2004 survey. In the 1980s there was only one giant panda in the area. Reserve staff believe this low number was due to logging. There are two panda reserves adjacent to Mamize and pandas have been flowing from them to re-populate Mamize.

Giant panda habitat, including Mamize Nature Reserve, is located within one of the 34 biodiversity hotspots in the world as defined by Conservation International. Biodiversity hotspots are areas on Earth that are of highest priority for conservation action and investment; they contain high species diversity and endemism, and are fragile and highly threatened (Myers *et al.* 2000). Habitat protection is paramount in saving endangered species and a critical component of habitat conservation is education. Conservation education is increasingly recognized as one of the critical components of conservation action plans to preserve life on Earth (Orr 2004). Many of the problems associated with habitat and wildlife threats stem from the practices of those communities living on the fringes of conservation areas (Adams 2007). The education imperative also extends to people who





Captive giant panda Er Yatou with her cubs.



Gu Dui Village in the Valley.

may visit nature reserves or purchase items derived from reserves (Daltry *et al.* 2001). Unlike some nature reserves in China that have been used sustainably by local people for countless generations, giant panda habitat – including Mamize – is considered to be too fragile for even minimal use (Xu and Melick 2007).

The Chengdu Panda Base was established in 1987 with the sole purpose of increasing and stabilizing the captive population of giant pandas through research. As this effort began to show success, in 2000 we established the first functioning conservation education department in a zoological facility in China. With seven years of development of programs and most importantly staff training and development, including staff training with the Education Division at Chester Zoo, we expanded our efforts to include *in situ* conservation with the ultimate goal of habitat preservation and growth of the wild population of giant pandas. This goal requires the efforts of many individuals and institutions with differing areas of expertise. Prior conservation work for Mamize mainly focused on habitat assessment and species monitoring, primarily of birds. NEZS staff, as well as

scientists from LJMU and Sichuan Forestry Administration, were interested in adding an education component to their conservation efforts.

Needs assessment

In June 2007, with a grant from NEZS, staff of the Chengdu Panda Base conducted a qualitative needs assessment with the staff of Mamize Reserve, the nearby school in Gu Dui Village, and local people to

Chester Zoo hosted Chengdu Panda Base educators – Xu Ping and Feng Rui Xi – for professional development and international exposure to the field of conservation education.



investigate how conservation education might fit into the conservation goals of the reserve and needs of the local people. We needed to understand the conservation threats in the area, local customs, education system, and learn the conservation goals of the Reserve in order to decide upon strategies that would most benefit the situation in Mamize. We learned that this area is dominated by the Yi Minority and soon found that as outsiders, being American and Han Chinese, we were not trusted and would need to have a Yi person on our team in order to be successful. We also learned that there was a great deal of local pride in the land and wildlife, and fear of outsiders coming in and destroying the land and poaching animals and plants from the Reserve.

Discussing cultural story, especially cultural views of wildlife.



Through a series of interviews we gained an initial overview of how local people used the forest:

- The primary threats to the Reserve are: collection of medicinal plants and roots, firewood, and bamboo shoots, and “ecotourism” a highly misused term in China. What actually takes place is that urban people go into natural areas for recreation because of beautiful scenery and cool weather and the number of people coming each year is increasing. They harm the areas through uncontrolled visitor numbers, littering, fires, noise, collection of plants and more often than not, buying souvenirs and meals that are derived from nature reserves.
- The main sources of income in the area are: 1) crops and fruit; 2) livestock, including sheep, ducks, pigs, chickens, and goats; 3) leaving the village for work in cities; and 4) collecting medicinal plants from the forest. Local people are also paid by the government to re-plant the area with trees. Unfortunately, only one species of pine is being planted. Mono-culture replanting is not habitat restoration, so not useful to local species or the health of the environment which also impacts local people (Conservation International 2007).
- Reserve staff do not believe that the taking of

medicinal plants is too harmful because they are plants and they will grow back. However, a human presence in the forest may disturb animals. Also, the taking of plants and animals from biodiversity hotspots is a threat to those ecosystems (Conservation International 2007). The dilemma is that the local people depend on the funds they receive for selling medicinal plants and herbs. If in education programs we advise not to take medicinal plants or animals from the Reserve, we must help people develop an alternative source of income.

- With financial support from its Chester Zoo partners, the Reserve has begun to develop community projects in order to improve the lives of local people living in and around the reserve. For example, villagers in Gu Dui have been provided with a clean water supply via the provision of stand pipes in prominent places around the village. Unfortunately local people either do not seem to be aware of the Reserve’s support for this or they do not see it as a significant advantage as the local people told us that the Nature Reserve is not a benefit for them. Before it was established they could collect more medicinal plants and cut trees to increase their income. Since the Reserve was established their income has decreased. There are also wild pigs that destroy their crops. More work is therefore needed to improve the effectiveness of community projects and ensure that local people make the direct connection between the presence of the reserve and improvements in local living standards.
- Local people have a positive relationship with the forest. The Yi Minority traditionally has a taboo against hunting some animal species, which affords a great deal of protection to wildlife. When asked why local people think pandas are important they said that pandas do not destroy crops or hurt people, as is the same with most wild animals. The local pride in their natural heritage is strong and should be motivational in wanting to conserve their natural resources.
- Many minority cultures in Southwest China have hunting taboos and conservation and social scientists advocate conservation programs that use an integrative approach that includes local people and heightens their self-interest and promotes protection of their traditional lands (Xu, Ma, Tashi, Fu, Lu, and Melick 2006). A great deal of indigenous knowledge in this region of the world places a high value on protecting forests, sacred sites, and water resources while protecting biodiversity (Xu *et al.* 2006).



Building on the results from the needs assessment, the conservation education components of the project were established to include several inter-related aims:

- to provide engaging experiences that allow local people to participate in conservation planning
- the maintenance of indigenous knowledge and stewardship practices
- to provide alternative resources so that the local people need not depend on the direct resources of the reserve.

Outcomes

We learned that conservation education is not only culturally sensitive from country to country, but also between regions of the same country. Consequently we have hired a Yi person to facilitate trust and help in our investigations and design of appropriate education tools. We have designed and conducted an initial training in conservation education content and methods for local school and reserve staff. Our next steps in conservation planning for Mamize are to learn more about Yi culture, learn about appropriate community sustainable livelihood programs and garner funds to begin these initiatives, study the local government structure, investigate the extent of collection of medicinals, firewood, and hunting, and promote pride in local customs and how land has traditionally been used. Finally, we will conduct a conservation campaign for the area, including conservation education programs and sustainable livelihood development.

Education and conservation campaigns have a significant role to play in bringing about changes in wildlife conservation (dos Santos and Blanes 1999; dos Santos and Blanes 1997). At the same time, promoting public participation in conservation decision-making and providing alternative livelihood choices are critical for a healthy future. International NGOs may be eager to conduct conservation education projects in developing nations but often find it hard to adapt resources and techniques to local needs. We are

utilizing funds and relevant skills from international organizations, but using in-country and local knowledge and skills to develop our project with cultural sensitivity. We hope that utilization of in-country knowledge and skills will allow us to develop our project quickly, more efficiently, and in a culturally relevant manner to benefit both people and biodiversity. ◊

ACKNOWLEDGEMENTS

We would like to acknowledge and thank the North of England Zoological Society and Liverpool John Moores University for collaborating with and funding this project. We would like to thank the leaders of the Sichuan Forestry Administration and the staff of Mamize Nature Reserve for supporting our efforts and making this work possible.

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For more information see:

<http://www.chesterzoo.org/WhatWeDo/Field%20Programmes/China.aspx>

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